

Crystal River

NEW BOATS



FAITHFUL & CRYSTAL RIVER

TWO NEW VESSELS FOR FRASERBURGH!

Macduff Shipyards Limited are delighted to announce the recent handover of two fishing vessels, the 'Faithful FR 129' and the 'Crystal River FR 178' to their respective owners Stewart Buchan and David Cardno of Fraserburgh. These vessels operate exclusively as a pair trawl team fishing out of their home port Fraserburgh, and have the distinction of being the yards first new build pair trawl order in over thirty years, the previous vessels being the wooden hulled 'Solitaire' and 'Sonia Jane' built in the 80's.

To deliver the vessels at the same time the production was split between the yards facilities with the Faithful being built in the Macduff main fabrication hall and the Crystal River being built in the Buckie fabrication hall. To assist with the build schedule, many of the steel units for the Crystal River were also built in Macduff before being shipped by sea to Buckie for assembly. As with all industries, the yard faced many struggles incurred by the Coronavirus pandemic which delayed the building schedule for both vessels and subsequently

made delivery at the same time challenging however the yard managed to delivery both vessels within three months and would like to sincerely thank both Stewart and David for their patience. The Faithful and Crystal River have been built to an identical design and share the same hull form as the Good Hope FR 891, also built by the yard in 2019. The hulls measure 26.50 m length overall with a registered length of 23.95 m, 7.80 m breadth and 4.20 m moulded depth. This hull form was developed using CFD technology, assisted by the Wolfson Unit in Southampton, to interrogate and optimise their design to reduce resistance and fuel consumption whilst also allowing for the large volume fish holds which can carry 1,150 fish boxes per vessel. As typical for the yards new builds Macduff Ship Design played a crucial role in developing the hull model, fairing its lines, analysing the stability, draughting a full set of structural plans and producing a computer 'kit' of steel parts required to build the hull. The 'kit' was then nested,

and CNC machine profiled by Macduff Profilers, a division within the Macduff Group, with the Lloyds Grade A ship building plate parts being delivered to the fabrication halls for assembly. As is typical, the wheelhouse and masts were built from marine grade aluminium to save weight. A bespoke hydraulic deck machinery package was fabricated by the yard for the vessels comprising of a large triple barrel winch powered by a Hagglunds CA210, two split net drums, one bagging net drum, one small gear handling winch and a dedicated anchor windlass. Thistle Marine of Peterhead supplied both the MFB8 landing crane and MBK13 powerblock crane, both of which featuring a slew ring base. Primary hydraulic power is provided by a single Denison hydraulic pump driven from a dedicated Cummins QSL9-M auxiliary engine producing 330 hp whilst secondary hydraulic power is provided by a separate Denison hydraulic pump driven from a power take off fitted to the main propulsion's gearbox.



FACT FILE

GENERAL PARTICULARS
LENGTH OVERALL: 26.50 M
LENGTH REGISTERED: 23.95 M
BEAM: 7.80 M
DEPTH: 4.20 M
DEPART PORT DISPLACEMENT: 350 T
FRESH WATER CAPACITY: 23,885
OIL FUEL CAPACITY: 24,398
HOLD CAPACITY: 1180 BOXES
SPEED: 10.7 KNOTS
CREW: 6-8

Faithful



MACDUFF SHIP DESIGN LIMITED
 NAVAL ARCHITECTS
 MARINE SURVEYORS
 +44 (0)1261 833825
 info@macduffshipdesign.com

DESIGNING TO DELIVER

Macduff Ship Design were pleased to work alongside Macduff Shipyards delivering "FAITHFUL & CRYSTAL RIVER"

Congratulations and wishing future success to all aboard both vessels

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WOODSONS ELECTRONICS

Woodsons of Aberdeen supplied and installed the complete electronics and navigation packages to both the Faithful and Crystal River.

THE INDIVIDUAL BOAT SPEC LIST IS AS FOLLOWS

Radio-Telephones

1 JRC JSS-2150 150W GMDSS MF/HF SSB

1 Icom M506GE VHF with DSC

2 Sailor 6210 VHF non DSC

1 EM-TRAK A200 Class A AIS

GPS/GPS Gyro

2 Furuno GP39 GPS navigator

1 JRC JLR21 Satellite compass

Echo-Sounder

1 Kaijo KSE310 Dual frequency

38/70Khz Split beam With fish sizing

Navigation

1 Sodena Easywin plotting system

Radar

1 JRC JMA-5410-6XBB radar

1 JRC JMA-5209-4BB radar

Wind sensor

1 Ultrasonic wind speed and direction sensor

Auto Pilot

1 Navitron NT921MKII autopilot

Talk-Back

1 Phontech talkback system

CCTV

1 CCTV System c/w 23 cameras

1 Propeller camera

Satellite television

1 e-SEA 80 Satellite TV system c/w

Satellite Communications

1 eSEA 600Ka INTERNET

communications system c/w

Emergency

1 Jotron TRON 60GPS Float Free EPIRB

with GPS

1 Entel HT649 GMDSS Hand Held VHF

1 JRC NAVTEX

Monitors

Quad Screen System/ 4K Video wall

matrix control system c/w

Touch Screen control bespoke

programming

3 55" wide screen monitors

10 24" wide screen monitors

Marine scales

1 VCU Catch Management and fish

weighing system

A hydraulically powered bow thruster is also fitted of 280 hp. The hydraulic system, designed by the yard, is cooled via a Blokland box cooler and Bowman heat exchanger.

The propulsion package features a 2.5 m fixed pitch propeller supplied by Wartsila, driven by a CATERPILLAR C32 main engine with 750 hp @ 1600-1800 rpm through a Masson Marine W7400 reversible gearbox with 9.077:1 reduction.

The yard has now fitted seven vessels with this propulsion package in recent years which has demonstrated itself to be both robust and adaptable with the Wide Operating Speed

Range of the C32 main engine providing flexibility to achieve full power from a fixed pitch propeller both whilst steaming and trawling.

The efficiency gains predicted during the early design phase were realised during engine trials with the vessel achieving 9.0knots at only 50% engine load and 10.7 knots at 100% load. Both vessels also feature a triple rudder system along with a modern high lift propeller nozzle provided by Wartsila.

Cooling systems for all engines and hydraulics onboard are served by box coolers supplied by Blokland Non-Ferro.

Electrical power onboard is provided by two Mitsubishi generator sets supplied by Macduff Diesels Limited, each with a rating of 98 kW and of sufficient size to run the vessels power independently providing complete redundancy.

The electrical systems onboard were designed and fitted by R.D. Downie who also fabricated the vessels switchboard and control panels for all the pumps and motor starters. In addition to this R.D. Downie also provided the fire, bilge and gas alarm systems onboard along with the navigation light panel and assisted with the installation of the navigation equipment.

The fish processing decks features a tailor-made catch handling system built by the yard from the owner's design. Two separate compartments are formed within the fish processing area which both contain a 2.5 t Geneglance ice machine and associated plant.

The fish hold refrigeration

system along with ice machines were supplied and fitted by Premier Refrigeration.

The high specification electronics package was supplied and fitted onboard by Woodsons of Aberdeen and Trawl monitor sensors were supplied and installed by Scanmar Ltd.



MACDUFF
Shipyards

THANK YOU

Macduff Shipyards would like to sincerely thank **David** and **Stewart** for placing the orders for the **Crystal River** and **Faithful**.

We wish you and all onboard **good fishing**.